



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
23.07.2003 Bulletin 2003/30

(51) Int Cl.⁷: **A61B 17/16**

(43) Date of publication A2:
31.07.2002 Bulletin 2002/31

(21) Application number: **02250513.5**

(22) Date of filing: **25.01.2002**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR
 Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Blamey, Jonathan**
Macclesfield, Cheshire SK10 2PO (GB)

(74) Representative: **Mays, Julie**
Barker Brettell,
10-12 Priests Bridge
London SW15 5JE (GB)

(30) Priority: **25.01.2001 US 770009**

(71) Applicant: **ZIMMER INC.**
Warsaw, Indiana 46580 (US)

(54) **Method and apparatus for preparing a femur to receive a modular prosthetic component**

(57) The present invention provides an improved method and apparatus for preparing a femur to receive a modular prosthetic femoral component. A distal reamer (46) having a plurality of sets of depth marks (52) is utilized to prepare the distal femoral canal. The sets of depth marks on the distal reamer correspond in number to the number of distal femoral stems (90) available for use with the particular modular prosthetic femoral implant set. Each set of depth marks comprises a plurality of indicator rings (58,60,62) corresponding in number to the number of proximal bodies adapted for utilization with the prosthetic femoral component set. Prior to distal reaming, the appropriate set of depth marks and indicator ring is chosen corresponding to the modular components the surgeon wishes to utilize. Reaming then takes place until the chosen indicator ring is aligned with a reference point (e.g., the top of the greater trochanter (78)). Upon reaching the appropriate reaming depth, the distal reamer is left in place in the femoral canal. A cannulated forming tool, e.g. a rasp or reamer (48), is thereafter positioned over the shank of the distal reamer and utilized to effect proximal canal sizing. The distal reamer head is sized whereby the proximal reamer (48), e.g., will abut the reaming head of the distal reamer when the proximal reamer reaches the appropriate depth associated with the shortest distal stem of the modular femoral component set. In this way, the head of the distal reamer provides a mechanical stop for the proximal reamer so that both under reaming and over reaming are avoided. In cases in which a longer femoral stem is utilized, a cylindrical spacer (50) having a length corresponding to the

length difference between the shortest distal stem and the chosen distal stem is utilized to provide a mechanical stop for the proximal reamer. The reamer spacer includes an elongate aperture sized whereby the reamer spacer fits about the shank of the distal reamer.

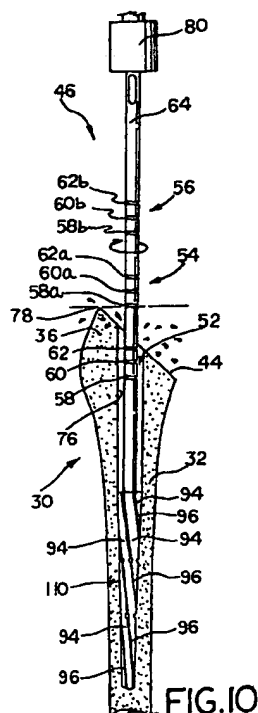
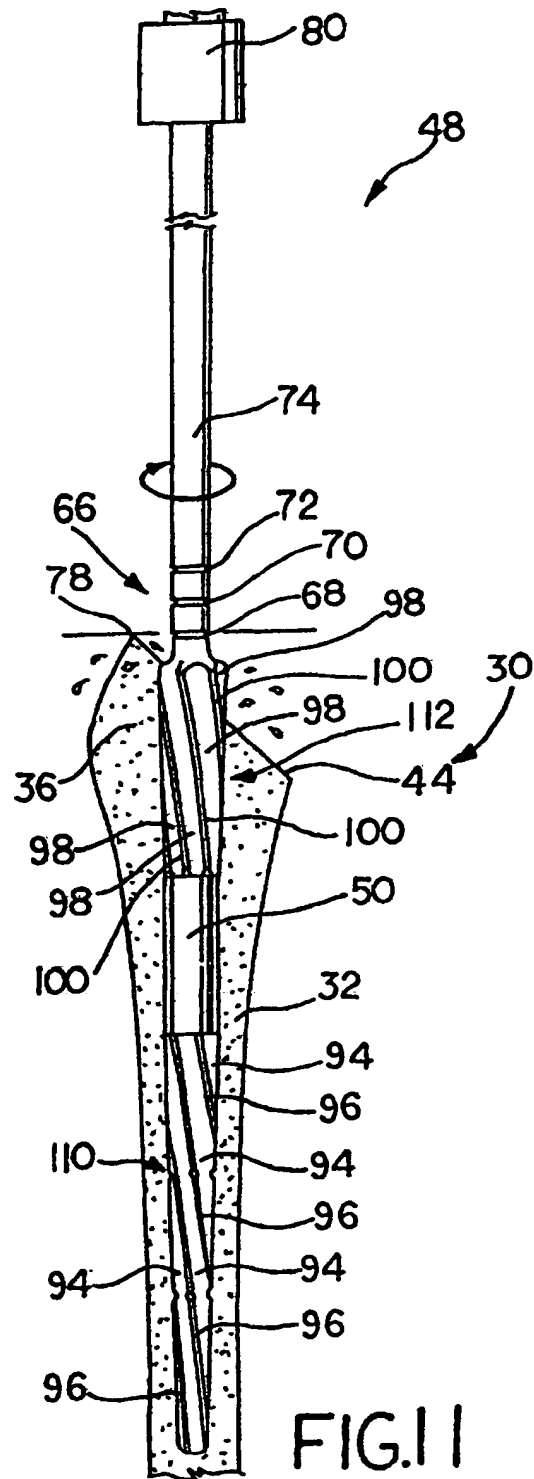


FIG. 10





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 25 0513

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 6 117 138 A (BURROWS JAMES W ET AL) 12 September 2000 (2000-09-12) * column 1, line 6 - column 1, line 10 * * column 2, line 4 - column 2, line 9 * * column 2, line 54 - column 3, line 5 * * column 4, line 65 - column 4, line 67 * * column 5, line 6 - column 5, line 8; figure 1 *	1,3,9,10	A61B17/16
Y	* column 5, line 20 - column 5, line 26; figure 2 *	11	
Y	* column 6, line 7 - column 6, line 10 *	2,4	
Y	EP 0 861 635 A (HOWMEDICA) 2 September 1998 (1998-09-02) * column 2, line 20 - column 2, line 23 * * column 7, line 33 - column 7, line 38 *	2,4	
Y	EP 1 004 283 A (JOHNSON & JOHNSON PROFESSIONAL) 31 May 2000 (2000-05-31) * column 1, paragraph 3 - column 1, paragraph 4 * * column 2, paragraph 5 - column 2, paragraph 6 * * column 5, paragraph 21 *	11	
A	EP 0 508 710 A (LINVATEC CORP) 14 October 1992 (1992-10-14) * column 4, line 30 - column 4, line 33 *	5	
X	US 5 607 431 A (DUDASIK MICHAEL W ET AL) 4 March 1997 (1997-03-04) * column 4, line 66 - column 5, line 12; figure 11 * * column 5, line 58 - column 5, line 66 * * column 6, line 33 - column 6, line 37 * * column 6, line 23 - column 6, line 28 *	1-3,9,10	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 27 May 2003	Examiner HERBERHOLD, C
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 25 0513

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-05-2003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6117138	A	12-09-2000	NONE	
EP 0861635	A	02-09-1998	EP 1201191 A1	02-05-2002
			EP 0861635 A2	02-09-1998
			AT 175335 T	15-01-1999
			AU 4370297 A	22-01-1998
			AU 4370397 A	22-01-1998
			AU 687390 B2	26-02-1998
			AU 6544594 A	20-12-1994
			CA 2160925 A1	08-12-1994
			DE 9490454 U1	30-01-1997
			DE 69415804 D1	18-02-1999
			DE 69415804 T2	20-05-1999
			DE 69431002 D1	22-08-2002
			DE 69431002 T2	08-05-2003
			EP 0700272 A1	13-03-1996
			ES 2125449 T3	01-03-1999
			WO 9427507 A1	08-12-1994
			JP 2650787 B2	03-09-1997
			JP 8506260 T	09-07-1996
			US 5908423 A	01-06-1999
EP 1004283	A	31-05-2000	US 6264699 B1	24-07-2001
			AU 5934599 A	01-06-2000
			EP 1004283 A2	31-05-2000
			JP 2000185062 A	04-07-2000
EP 0508710	A	14-10-1992	US 5190548 A	02-03-1993
			AT 149317 T	15-03-1997
			AU 641889 B2	30-09-1993
			AU 1134292 A	15-10-1992
			CA 2061833 A1	11-10-1992
			DE 69217689 D1	10-04-1997
			DE 69217689 T2	03-07-1997
			EP 0508710 A1	14-10-1992
			JP 5103790 A	27-04-1993
US 5607431	A	04-03-1997	CA 2211074 A1	15-08-1996
			WO 9624313 A1	15-08-1996

EPO FORM P469

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82